

Resource Summary Report

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BioPortal

RRID:SCR_002713

Type: Tool

Proper Citation

BioPortal (RRID:SCR_002713)

Resource Information

URL: <http://bioportal.bioontology.org/>

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Description: Open repository of biomedical ontologies that provides access via Web browsers and Web services to ontologies. It supports ontologies in OBO format, OWL, RDF, Rich Release Format (RRF), Protege frames, and LexGrid XML. Functionality includes the ability to browse, search and visualize ontologies as well as to comment on, and create mappings for ontologies. Any registered user can submit an ontology. The NCBO Annotator and NCBO Resource Index can also be accessed via BioPortal. Additional features: * Add Reviews: rate the ontology according to several criteria and describe your experience using the ontology. * Add Mappings: submit point-to-point mappings or upload bulk mappings created with external tools. Notification of new Mappings is RSS-enabled and Mappings can be browsed via BioPortal and accessed via Web services. * NCBO Annotator: Tool that tags free text with ontology terms. NCBO uses the Annotator to generate ontology annotations, creating an ontology index of these resources accessible via the NCBO Resource Index. The Annotator can be accessed through BioPortal or directly as a Web service. The annotation workflow is based on syntactic concept recognition (using the preferred name and synonyms for terms) and on a set of semantic expansion algorithms that leverage the ontology structure (e.g., is_a relations). * NCBO Resource Index: The NCBO Resource Index is a system for ontology based annotation and indexing of biomedical data; the key functionality of this system is to enable users to locate biomedical data linked via ontology terms. A set of annotations is generated automatically, using the NCBO Annotator, and presented in BioPortal. This service uses a concept recognizer (developed by the National Center for Integrative Biomedical Informatics, University of Michigan) to produce a set of annotations and expand them using ontology is_a relations. * Web services: Documentation on all Web services and example code is available at: BioPortal Web services.

Abbreviations: BioPortal

Synonyms: BioPortal Knowledgebase

Resource Type: data or information resource, data repository, repository, controlled vocabulary, storage service resource, ontology, service resource

Defining Citation: [PMID:19483092](#), [PMID:21672956](#), [PMID:18999306](#)

Keywords: biomedical, thesaurus, ontology mapping, annotation, metadata standard, ontology repository, portal, web service, obo, owl, rdf, rrf protege frame, lexgrid xml

Funding: NIGMS U24 GM143402

Availability: Free, Available for download, Freely available

Resource Name: BioPortal

Resource ID: SCR_002713

Alternate IDs: nif-0000-23346, r3d100012344

Alternate URLs: <https://www.force11.org/node/4646>, <https://doi.org/10.17616/R3J362>

License: Open unspecified license

Record Creation Time: 20220129T080214+0000

Record Last Update: 20260806T054341+0000

Ratings and Alerts

No rating or validation information has been found for BioPortal.

No alerts have been found for BioPortal.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 328 mentions in open access literature.

Listed below are recent publications. The full list is available at [dkNET](#) .

Dorstyn L, et al. (2026) Caspase-2 deficiency drives pathogenic liver polyploidy and increases age-associated hepatocellular carcinoma in mice. Science advances, 12(1), eaeb2571.

Graefe ASL, et al. (2025) RareLink: scalable REDCap-based framework for rare disease interoperability linking international registries to FHIR and Phenopackets. NPJ genomic medicine, 10(1), 72.

Malara A, et al. (2025) Polypharmacy appropriateness in Italian Long-Term Care Facilities: the nationwide prescription day point survey. *Aging clinical and experimental research*, 37(1), 291.

Consoli S, et al. (2025) An epidemiological knowledge graph extracted from the World Health Organization's Disease Outbreak News. *Scientific data*, 12(1), 970.

, et al. (2025) Guidance on the use of read-across for chemical safety assessment in food and feed. *EFSA journal*. European Food Safety Authority, 23(7), e9586.

Vendetti J, et al. (2025) BioPortal: an open community resource for sharing, searching, and utilizing biomedical ontologies. *Nucleic acids research*, 53(W1), W84.

Xu S, et al. (2025) Bending the boundaries: the many facets of endophilin-As from membrane dynamics to disease. *Cellular and molecular life sciences : CMLS*, 82(1), 339.

Rippee M, et al. (2025) The Injection of Ghrelin (OXE-103) Improves Subacute Concussion Symptom Burden and Quality of Life. *Neurotrauma reports*, 6(1), 402.

He Y, et al. (2025) Immune Biomarkers, Profiles, and Responses: A Vaccine Ontology Perspective. *bioRxiv : the preprint server for biology*.

Riquelme-Garc??a A, et al. (2025) Annotation of biological samples data to standard ontologies with support from large language models. *Computational and structural biotechnology journal*, 27, 2155.

Wang Z, et al. (2025) Unveiling differential adverse event profiles in vaccines via LLM text embeddings and ontology semantic analysis. *Journal of biomedical semantics*, 16(1), 10.

O'Connor MJ, et al. (2025) Ensuring Adherence to Standards in Experiment-Related Metadata Entered Via Spreadsheets. *Scientific data*, 12(1), 265.

Rosner B, et al. (2025) An Ontology for Digital Medicine Outcomes: Development of the Digital Medicine Outcomes Value Set (DOVeS). *JMIR medical informatics*, 13, e67589.

Hier DB, et al. (2025) A simplified retriever to improve accuracy of phenotype normalizations by large language models. *Frontiers in digital health*, 7, 1495040.

Lhoumeau S, et al. (2025) Landscape to microhabitat: Uncovering the multiscale complexity of native and exotic forests on Terceira Island (Azores, Portugal). *PloS one*, 20(6), e0326304.

Wu D, et al. (2025) A knowledge-based clinical decision support system for personalized health examination items in China: design and evaluation. *BMC medical informatics and decision making*, 25(1), 183.

Barret N, et al. (2025) I-ETL: an interoperability-aware health (meta)data pipeline to enable federated analyses. *BMC medical informatics and decision making*, 25(1), 375.

Chhetri TR, et al. (2025) Bridging the Scientific Knowledge Gap and Reproducibility: A Survey of Provenance, Assertion and Evidence Ontologies. *Proceedings of the ... International World-Wide Web Conference. International WWW Conference*, 2025(Companion), 924.

Liu J, et al. (2025) Single-cell omics arena: evaluation of large language models for automatic cell-type annotations on single-cell omics data via RNA-seq bridging. *Briefings in bioinformatics*, 26(6).

Bi M, et al. (2025) BioRAGent: natural language biomedical querying with retrieval-augmented multiagent systems. *Briefings in bioinformatics*, 26(5).